

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
22 April 2004 (22.04.2004)

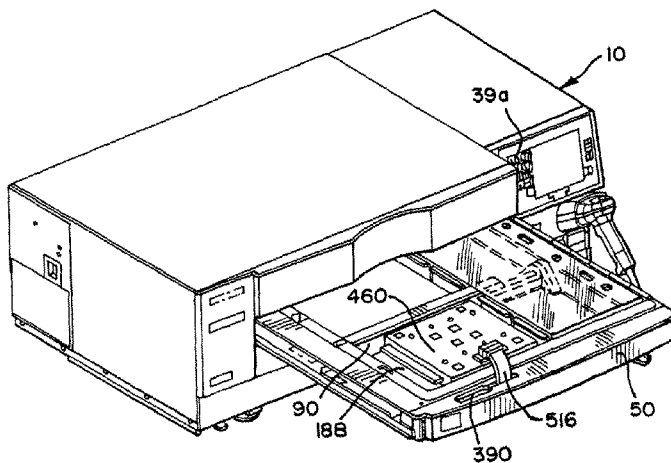
PCT

(10) International Publication Number  
**WO 2004/033081 A3**

- (51) International Patent Classification<sup>7</sup>: **A61L 2/00**, 9/00, A61M 1/14
- (21) International Application Number: PCT/US2003/029997
- (22) International Filing Date: 24 September 2003 (24.09.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 10/269,409 11 October 2002 (11.10.2002) US
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- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:  
— with international search report
- (88) Date of publication of the international search report: 24 June 2004

[Continued on next page]

(54) Title: APPARATUS, SYSTEMS AND METHODS FOR PROCESSING AND TREATING A BIOLOGICAL FLUID WITH LIGHT



(57) Abstract: Apparatus (10), systems and methods are disclosed for treating a biological fluid with light. A container (206) of biological fluid is introduced into a fluid treatment chamber (40) where it is contacted with light provided by one or more light sources (60, 70) in proximity to the fluid treatment chamber (40). A light sensing system (650) senses the intensity of illumination of the light. A radiometer (460) may be inserted into fluid treatment chamber (40) to calibrate the light sensing system (650). An electronic control system (600) utilizes an interface circuit board (606) to interface a computer circuit board (602) to a display panel (37), a user interface panel (39, 39a), a relay circuit board (640), light sensors (404) and various other sensors (649). A detector (385) senses agitating movement of a tray (90) that contains biological fluids. Methods include calibrating (781-785), sensing (770-773) and correcting (774-775) light intensity measurements, and determining the length of treatment (776) to reach a desired illumination dose. A radiometer (460) is equipped with a plurality of light sensors (469) disposed on both sides to measure light intensity in chamber (40) and to provide a reference for calibrating light sensing system (650).



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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*